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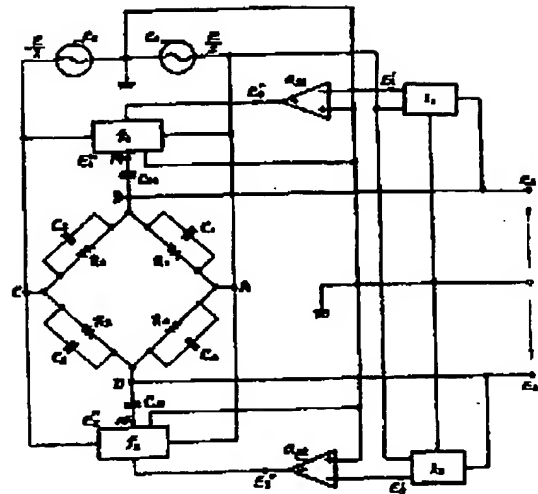
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TITLE : MEASURING DEVICE OF BRIDGE



ABSTRACT : PURPOSE: To unnecessitate initial adjustment of balance by detecting the imaginary-number component signal of each voltage generated between each measuring end of the bridge and reference potential and by making the signal fed back negatively to the measuring end to eliminate the influence of unbalanced capacity.

CONSTITUTION: The resistance brodge is formed by resistances R_1 – R_4 and capacities C_1 – C_4 exist in parallel to these resistance. In a net of four terminals composed of points A, B, C and M, the imaginary-number component of the voltage E_1 at the point B is detected by an imaginary-number part detector I_1 , the output voltage E_1' thereof is amplified by an error amplifier a_{21} , further by the output voltage E_1'' of the amplifier is controlled the output voltage E_1''' of an amplitude controller f_1 and the voltage E_1''' is fed back to one end B of the bridge through the intermediary of a capacity C_M . By providing a negative feedback loop in such a constitution, the existence of the capacity is eliminated even when the unbalanced capacity exists at each side of the bridge in parallel with the resistance, whereby the initial adjustment of balance can be unnecessitated.

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